



Date: June 26, 2003

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NOTICE OF APPEAL FROM THE PRIMARY EXAMINER TO THE BOARD OF APPEALS

In re application of : William B. Boyle et al.

App. No. : 09/652,730

For : ELECTRONIC PROGRAM GUIDE
SUBSYSTEM FOR RECEIVING AND
PROCESSING ELECTRONIC
PROGRAM GUIDE INFORMATION
FROM A SET-TOP BOX

Filed : August 31, 2000

Examiner : Christopher O. Onuaku

Group Art Unit : 2615

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June 26, 2003

(Date)

Bruce S. Itchkawitz, Reg. No. 47,677

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Technology Center 2600

Dear Sir:

Applicants hereby appeal to the Board of Patent Appeals and Interferences from the decision dated January 29, 2003 finally rejecting Claims 1-19 and 21-30. The items marked below are appropriate:

(X) An extension of time to respond to the final rejection for two months is hereby requested.

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- () \$160 (small entity)
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(X) Enclosed is a check in the amount of \$730.00.

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Bruce S. Itchkawitz
Registration No. 47,677
Customer No. 20,995
(949) 760-0404

Case Docket No. K35A0665 (LQM 1718-1001/WESDIG.033A)

Date: August 25, 2003

Page 1

In re application of : William B. Boyle et al.
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August 25, 2003

(Date)

Bruce S. Itchkawitz
Bruce S. Itchkawitz, Reg. No. 47,677

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Sir:

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Transmitted herewith in triplicate is an Appellants' Brief to the Board of Patent Appeals:

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(X) If applicant has not paid any other fee in a sufficient amount to prevent the abandonment of this application, please consider this as an authorization to charge our Deposit Account No. 11-1410 for any fee which may be due. Please credit any overpayment to Deposit Account No. 11-1410.

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Bruce S. Itchkawitz
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants	: William B. Boyle et al.
Appl. No.	: 09/652,730
Filed	: August 31, 2000
For	: ELECTRONIC PROGRAM GUIDE SUBSYSTEM FOR RECEIVING AND PROCESSING ELECTRONIC PROGRAM GUIDE INFORMATION FROM A SET- TOP BOX
Examiner	: Christopher O. Onuaku
Group Art Unit	: 2615

APPELLANTS' BRIEF PURSUANT TO 37 C.F.R. § 1.192

UNITED STATES PATENT AND TRADEMARK OFFICE
Board of Patent Appeals and Interferences
P.O. Box 2327
Arlington, Virginia 22202

Dear Sir:

Applicants (Appellants herein) appeal the final rejection of Claims 1-19 and 21-30 set forth in the January 29, 2003 Final Office Action. Appellants submitted a Notice of Appeal by Certificate of Mailing on June 26, 2003. According to the return postcard, the Notice of Appeal was received in the Board of Patent Appeals and Interferences on June 30, 2003. Thus, the deadline for filing this appeal brief is Tuesday, September 2, 2003.

This appeal brief is filed in triplicate pursuant to 37 C.F.R. § 1.192(a). Appellants are enclosing a check in the amount of \$320 to cover the \$320 fee for filing an appeal brief pursuant to 37 C.F.R. § 1.191 and 1.17(c).

I. REAL PARTIES IN INTEREST

The real party in interest of the above-captioned application is the assignee, Keen Personal Media, Inc., a subsidiary of Western Digital Corporation of Lake Forest, California.

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II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeal or interference.

III. STATUS OF CLAIMS

The present application was originally filed with Claims 1-30 on August 31, 2000. Claim 20 was cancelled and Claims 1, 19, 21, and 22 were amended during prosecution of the present application. Claims 1-19 and 21-30 were finally rejected by the Examiner in the January 29, 2003 Final Office Action, and the final rejection was maintained in a June 12, 2003 Advisory Action. No claims have been allowed in the present application, and Claims 1-19 and 21-30 are the subject of this appeal.

In accordance with 37 C.F.R. § 1.192(c)(9), a copy of the set of claims involved in this appeal is included as Appendix A attached hereto.

IV. STATUS OF AMENDMENTS

As set forth in Section III, Claims 1, 19, 21, and 22 were amended during the prosecution of the present application. No amendment has been filed subsequent to the final rejection.

V. SUMMARY OF APPELLANTS' INVENTION

Appellants' invention relates generally to information storage and display systems, and more particularly, to video display systems that record information relating to video programming. Known video display systems receive incoming broadcast audiovisual data from a service provider via the output interface of a set-top box. The set-top box can also receive electronic program guide (EPG) information from the service provider to provide broadcast scheduling information to the user in a format determined by the service provider. (*See*, page 1, line 11 - page 2, line 9 of the specification.)

Known digital video recording systems do not utilize the EPG information received by the set-top box. Instead, such known systems receive and store EPG information from an external source via a modem (e.g., telephone modem) to provide broadcast scheduling

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information to either the user or to resident software programs. Such known systems are configured to control the display of the EPG information to the user, using their own format for the display. Thus, such known systems do not use information from the broadcaster and do not use the set-top box as a conduit for the EPG information, thereby taking control of the display presented to the user away from the broadcaster and the service provider. (*See*, page 2, lines 10 - 26 of the specification.)

One aspect of Appellants' invention is a digital video recorder connectable to a set-top box. The digital video recorder comprises a storage device and an EPG subsystem to receive the EPG information from the set-top box and to process the EPG information to schedule recording the broadcast audiovisual data on the storage device. (*See*, page 2, line 28 - page 3, line 7 of the specification.) The digital video recorder can comprise a microprocessor that includes the EPG subsystem and is configured to control the digital video recorder and the set-top box. (*See*, Figure 1 and page 8, lines 10-12 of the specification.)

By accessing the EPG information transmitted to set-top boxes by service providers, embodiments of Appellants' invention do not require the modem of prior art systems, and provide a seamless transition for the user upon adding a digital video recorder to the user's video system. In addition, embodiments of Appellants' invention allow the broadcaster and the service provider to remain in control of the information displayed to the user and also to remain in control of the format of the displayed information. This retention of control by the broadcaster and the service provider can be valuable with regard to presenting advertising information to the user. (*See*, page 10, lines 3-18 of the specification.)

VI. ISSUE PRESENTED ON APPEAL

The following issues are presented on appeal:

Whether Appellants' claimed invention should be deemed anticipated where the cited references do not include all the limitations of the claimed subject matter; and

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Whether Appellants' claimed invention should be deemed obvious where the cited references do not teach or suggest the claimed subject matter.

VII. GROUPING OF CLAIMS

For the purposes of this appeal only, Appellants group the pending claims as follows:

- Group I: Claims 1-12, 19, and 22-30
- Group II: Claims 13, 14, 16, and 17
- Group III: Claims 15 and 18
- Group IV: Claim 21

Appellants submit that each of these groups is separately patentable from the other groups, since each group was rejected by the Examiner under separate grounds. In the following discussion, Appellants provide arguments for patentability for each of the groups.

VIII. ARGUMENT

For the Board's convenience, Appellants are including copies of the references discussed herein in Appendix B, and copies of the cases relied upon herein in Appendix C.

A. DISCUSSION OF THE REFERENCES RELIED UPON BY EXAMINER

In the Final Office Action mailed January 29, 2003, the Examiner rejects Claims 1-12, 19, and 22-30 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,002,394 to Schein et al. The Examiner also rejects Claims 13, 14, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Schein et al. in view of U.S. Patent No. 6,003,041 to Wugofski. The Examiner also rejects Claims 15 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Schein et al. in view of U.S. Patent No. 5,963,264 to Jackson. The Examiner also rejects Claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Schein et al. in view of U.S. Patent No. 5,699,107 to Lawler et al.

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1. Schein et al.

U.S. Patent No. 6,002,394 to Schein et al. ("Schein") discloses a system and method for providing television schedule information to a viewer using a remote database (*e.g.*, a database on the internet). As illustrated by Figure 1 of Schein, the system of Schein utilizes a computer system coupled to a television system. The computer system comprises a hard drive for storing control software and comprises a microprocessor, which can be located within a set-top box. (*See*, column 4, lines 52-60, column 5, lines 38-44, and column 6, lines 7-9 of Schein.) The television system includes a television which may be a commercially available television. The television system may include one or more video tape recorders (VCRs) for storing broadcast data. This VCR can be a commercially available VCR or another type of recording and/or storage device (analog or digital). (*See*, column 5, lines 16-23 of Schein.)

2. Wugofski

U.S. Patent No. 6,003,041 to Wugofski ("Wugofski") discloses a system and method for managing multiple channel maps from multiple input devices in a multimedia system. The system utilizes EPG information to map the various channels from various sources into separate logical channels unique within the system. (*See*, column 2, lines 13-29 of Wugofski.) Wugofski discloses that the various sources can include a VHF/UHF antenna, a satellite dish, a cable connection box, a modem, as well as other conventional signal sources. The control functions for these devices may be achieved by wired interfaces, such as those described by the IEEE-1394 interface standard. (*See*, column 3, lines 2-28 of Wugofski.)

3. Jackson

U.S. Patent No. 5,963,264 to Jackson ("Jackson") discloses a system and method for wireless control of video recording device operations. The system includes a television receiver and one or more video cassette recorders wirelessly coupled to the television receiver. The digital data stream transmitted by the broadcaster to the television receiver includes television programming, EPG information, and hardware-specific infrared control codes corresponding to various video cassette recorders. Program scheduling information is presented to the user based on the EPG information. In response to signals from the user indicating which programs to

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record and which VCR to use, the television receiver transmits corresponding infrared control signals to the video cassette recorder for selective recording. (*See*, column 2, line 41 - column 3, line 6 of Jackson.)

4. Lawler et al.

U.S. Patent No. 5,699,107 to Lawler et al. ("Lawler") discloses a program reminder system for an interactive viewing system. The program reminder system reminds a user when a preselected program is available. The system includes an EPG data server that stores program schedule information and a subscriber database that stores subscriber specific information such as a user's viewing preferences and history. (*See*, column 4, lines 27-67 of Lawler.)

B. DISCUSSION OF THE ISSUES ON APPEAL

1. Claims 1-12, 19, and 22-30 (Group I) are not anticipated by Schein because each of these claims include limitations not disclosed by Schein

The Examiner asserts that Schein discloses systems and methods for allowing television viewers to retrieve, search, select, and interact with television schedule information located in a remote database, computer network, or on-line service, e.g., a network server on the Internet or World Wide Web. The Examiner further asserts that the system of Schein comprises all the limitations of Claims 1-12, 19, and 22-30.

For the reasons set forth below, Appellants respectfully disagree with the Examiner's analysis and conclusions. Appellants respectfully submit that Claims 1-12, 19, and 22-30 (Group I) are patentably distinguished over Schein.

a. Claim 1

Appellants respectfully submit that Schein does not disclose a "digital video recorder connectable to a set-top box ... the digital video recorder comprising: at least one recorder interface connectable to the auxiliary interface; a storage device; a microprocessor configured to control the digital video recorder and the set-top box, the microprocessor comprising an electronic program guide subsystem connected to the recorder interface to receive the electronic

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program guide information from the set-top box and to process the electronic program guide information to schedule recording the broadcast audiovisual data on the storage device; and a video output interface separate from the recorder interface, the video output interface connectable to a display device,” as defined by Claim 1.

As explained in MPEP § 2131 (February 2003), a claim is anticipated only if “each and every element as set forth in the claim is found in a single prior art reference” (emphasis added). Furthermore, the elements in the reference “must be arranged as required by the claim” (emphasis added). (*See, e.g., Brown v. 3M*, 265 F.3d 1349, 60 U.S.P.Q.2d 1375 (Fed. Cir. 2001); *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).) The Examiner has asserted that Schein discloses a system which includes a set-top box, a recorder interface, a storage device, a microprocessor, and a video output interface. However, as discussed below, the elements in the system of Schein are not arranged as required by Claim 1 of Appellants’ application. Therefore, Claim 1 is not anticipated by Schein.

Claim 1 defines a digital video recorder that (i) is connectable to a set-top box; (ii) comprises a microprocessor connected to the recorder interface to receive the electronic program guide information from the set-top box; and (iii) comprises a video output interface separate from the recorder interface. While the Examiner asserts that Schein discloses such a digital video recorder, the disclosure of Schein does not satisfy all the limitations of Claim 1, as described below.

i. The digital video recorder and the set-top box are connectable to one another.

The preamble of Claim 1 of Appellants’ application specifies that the “digital video recorder [is] connectable to a set-top box,” and that “the set-top box includ[es] at least one auxiliary interface that supports communications between the digital video recorder and the set-top box.” (emphasis added) Claim 1 further specifies that the digital video recorder comprises “at least one recorder interface connectable to the auxiliary interface [of the set-top box],” and “a microprocessor ... connected to the recorder interface to receive the electronic program guide

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information from the set-top box.” (emphasis added) Thus, the digital video recorder and the set-top box of Claim 1 of Appellants’ application are separate components which are connectable to one another.

The Examiner interprets the whole system of Figure 1 of Schein, including the computer 12, as the digital video recorder. However, at column 4, lines 56-57, Schein discloses that the computer 12 can be located within the set-top box, i.e., the computer 12 is part of the set-top box. Thus, interpreting the whole system of Figure 1 of Schein as the digital video recorder encompasses interpreting the digital video recorder as including the set-top box. Therefore, the interpretation by the Examiner ignores the limitation of Claim 1 of Appellants’ application that the digital video recorder is connectable to the set-top box.

ii. The digital video recorder of Claim 1 comprises a microprocessor connected to the recorder interface to receive electronic program guide information from the set-top box.

As defined in Claim 1 of Appellants’ application, “the digital video recorder compris[es] ... a microprocessor.” As argued above, the digital video recorder and the set-top box of Claim 1 are separate, but connectable, components. In contrast, the processor of Schein is disclosed to be contained in the computer 12 of Figure 1, which can be located within a set-top box. Thus, the processor of Schein is in the set-top box, not in the digital video recorder. Therefore, the processor of Schein does not satisfy the limitation of Claim 1 in which the microprocessor is in the digital video recorder.

As also defined in Claim 1, the digital video recorder comprises a recorder interface, and the microprocessor is “connected to the recorder interface to receive the electronic program guide information from the set-top box.” The Examiner identifies the connection of the VCR 36 to the TV 32 as inherently having a recorder interface as defined by Claim 1. However, by having the processor of Schien within the set-top box, Schein discloses that the processor receives electronic program guide information directly from the set-top box. The processor of Schein therefore has no need to be connected to the “recorder interface” between the VCR 36 and the TV 32 to receive electronic program guide information from the set-top box. Thus, the processor of

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Schein does not satisfy the limitation of Claim 1 in which the microprocessor is connected to the recorder interface to receive the electronic program guide information from the set-top box.

In the June 12, 2003 Advisory Action, the Examiner asserts that this argument of Appellants is not acceptable since "both connecting format[s] can efficiently perform similar functions," and that constructing a formerly integral structure in various elements (or forming in one piece an article which has formerly been formed in two pieces) involves only routine skill in the art. However, Appellants submit that the microprocessor in the digital video recorder, as defined by Claim 1, is not a mere division into separate elements of a formerly integral structure. Appellants' invention, as defined by Claim 1, provides advantages not available using the disclosure of Schein. The system of Schein utilizes highly-specialized set-top boxes containing a computer, including a hard drive and a microprocessor with an electronic program guide system. In contrast, the digital video recorder of Claim 1 is connectable to relatively simple set-top boxes with auxiliary interfaces. The relatively simple (and inexpensive) set-top boxes can be provided to all users, whether they want to utilize and pay for the enhanced features of a digital video recorder or not. For user who do wish to utilize and pay for the enhanced features of a digital video recorder, the claimed invention of Claim 1 can be made available to them, thereby providing the storage device and the microprocessor with an electronic program guide system used for the enhanced recording and viewing capabilities. If the user no longer wishes to utilize and pay for these enhanced features, the user only needs to disconnect the digital video recorder. Thus, the claimed invention can provide flexible and cost-effective delivery of enhanced digital video recording and viewing capabilities to customers while utilizing inexpensive and simple set-top boxes.

iii. The video output interface of Claim 1 is separate from the recorder interface and connectable to a display device.

Schein also does not disclose a digital video recorder comprising a video output interface which is separate from the recorder interface and connectable to a display device as defined in Claim 1. As described above, the Examiner identifies the connection of the VCR 36 to the TV

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32 as inherently having a recorder interface as defined by Claim 1 of Appellants' invention. In the June 12, 2003 Advisory Action, the Examiner also asserts that the system of Figure 1 of Schein inherently includes a video output interface since it is connected to a television. The Examiner further asserts that "[c]learly the recorder interface must be different from the video output interface since the recorder interface is used to communicate with the VCR 36 and the video output interface is used to communicate with the display means (television 12)."

However, the connection identified by the Examiner as corresponding to the recorder interface is the same connection identified by the Examiner as corresponding to the video output interface. Both Figure 1 and Figure 11 of Schein disclose only a single interface between the television and the VCR. As described above, the Examiner identifies this single interface (line 39) between the television 12 and the VCR 36 as corresponding to the recorder interface of Appellants' invention. This single interface must also be used to transmit audiovisual data between the VCR and the television, so this single interface of Schein also serves as a video output interface. Thus, Schein does not satisfy the limitation of Claim 1 in which the digital video recorder has a video output interface separate from the recorder interface and connectable to a display device.

For the foregoing reasons, Appellants submit that Claim 1 defines features that are not disclosed by Schein. Therefore, Claim 1 is not anticipated by Schein and is patentably distinguished over Schein. The Examiner's rejection of Claim 1 under 35 U.S.C. § 102(e) is not supported by the disclosure of Schein and should be reversed by the Board.

b. Claims 2-12

Claims 2, 4-6, and 10-11 each depend from Claim 1, Claim 3 depends from Claim 2, Claims 7-9 each depend from Claim 6, and Claim 12 depends from Claim 11. Each of Claims 2-12 includes all the limitations of Claim 1, and further recites limitations of particular utility in addition to the limitations of Claim 1. In view of the foregoing remarks regarding the patentability of Claim 1, Appellants respectfully submit that dependent Claims 2-12 are also patentably distinguished over Schein. The Examiner's rejection of Claims 2-12 under 35 U.S.C. § 102(e) is not supported by Schein and should be reversed by the Board.

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c. Claim 19

Appellants respectfully submit that Schein does not disclose the invention defined in Claim 19. In particular, Schein does not disclose a “digital video recorder connectable to a set-top box ... the digital video recorder comprising: at least one device interface connectable to the auxiliary interface; a microprocessor configured to control the digital video recorder and the set-top box, the microprocessor comprising an electronic program guide subsystem connected to the device interface to receive and process the electronic program guide information from the set-top box; and a video output interface separate from the device interface, the video output interface connectable to a display device.”

As discussed above with respect to Claim 1, Schein does not disclose the limitation of Claim 19 in which the digital video recorder (i) is separate from, but connectable to, a set-top box; (ii) comprises a microprocessor connected to the device interface to receive and process the electronic program guide information from the set-top box; and (iii) comprises a video output interface separate from the device interface. For the reasons set forth above in relation to Claim 1, Claim 19 defines features that are not disclosed by Schein, and Appellants respectfully submit that Claim 19 is patentably distinguished over Schein. The Examiner’s rejection of Claim 19 under 35 U.S.C. § 102(e) is not supported by Schein and should be reversed by the Board.

d. Claim 22

Appellants respectfully submit that Schein does not disclose the claimed invention of Claim 22. In particular, Schein does not disclose a method for communicating electronic program guide information from a set-top box to a digital video recorder comprising a video output interface and a microprocessor comprising an electronic program guide subsystem, the method comprising “connecting at least one recorder interface of the digital video recorder to at least one auxiliary interface of the set-top box, the recorder separate from the video output interface and connected to the electronic program guide subsystem; recognizing the connection of the digital video recorder to the set-top box; and communicating the electronic program guide information from the set-top box to the electronic program guide subsystem.”

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As discussed above with respect to Claim 1, Schein does not disclose the limitation of Claim 22 in which the digital video recorder is connected to the set-top box via a recorder interface separate from the video output interface. In addition, Schein does not disclose the limitation of Claim 22 in which the connection between the digital video recorder and the set-top box is recognized. Furthermore, Schein does not disclose the limitation of Claim 22 in which electronic program guide information is communicated from the set-top box to the electronic program guide subsystem of the microprocessor in the digital video recorder.

At page 3, line 20 - page 4, line 6 of the June 12, 2003 Advisory Action, the Examiner responds to Appellants' arguments made in the Response to the January 29, 2003 Final Office Action by stating that "Schein clearly discloses communicating electronic program guide information from a set-top box ... to the digital video recorder" and that "[i]t is pertinent to note that the processor is located within the STB." (emphasis added) Appellants submit that this response by the Examiner clearly shows that the Examiner has ignored limitations of Claim 22, including having "a digital video recorder comprising ... a microprocessor."

For the foregoing reasons, Claim 22 defines features that are not disclosed by Schein, and Appellants respectfully submit that Claim 22 is patentably distinguished over Schein. The Examiner's rejection of Claim 22 under 35 U.S.C. § 102(e) is not supported by Schein and should be reversed by the Board.

e. Claims 23-30

Claims 23, 26, 27, and 30 each depend from Claim 22. Claims 24-25 each depend from Claim 23, and Claims 28-29 each depend from Claim 27. Each of Claims 23-30 includes all the limitations of Claim 22, and further recites limitations of particular utility in addition to the limitations of Claim 22. In view of the foregoing remarks regarding the patentability of Claim 22, Appellants respectfully submit that dependent Claims 23-30 are also patentably distinguished over Schein. The Examiner's rejection of Claims 23-30 under 35 U.S.C. § 102(e) is not supported by Schein and should be reversed by the Board.

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2. Claims 13, 14, 16, and 17 (Group II) are not obvious because Schein in view of Wugofski do not teach or suggest the claimed subject matter.

The Examiner rejects Claims 13, 14, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Schein in view of Wugofski. The Examiner asserts that Schein teaches essentially the claimed invention except for wherein the auxiliary interface or the recorder interface supports isochronous communication or asynchronous communication. The Examiner further asserts that Wugofski teaches these limitations by virtue of using an IEEE-1394 interface and that it would have been obvious to modify Schein by using such an interface.

Appellants respectfully disagree with the Examiner's analysis and conclusions. Claims 13, 14, 16, and 17 each depend from Claim 1. As discussed above with respect to Claim 1, Schein does not disclose all the limitations of Claim 1. Furthermore, Wugofski does not teach, disclose, or suggest the limitations of Claim 1 not disclosed by Schein. Therefore, Appellants respectfully submit that Claim 1 is patentably distinguished over Schein in view of Wugofski.

Each of Claims 13, 14, 16, and 17 includes all the limitations of Claim 1, and further recites limitations of particular utility in addition to the limitations of Claim 1. In view of the foregoing remarks regarding the patentability of Claim 1, and in further view of the additional limitations of Claims 13, 14, 16, and 17, Appellants respectfully submit that dependent Claims 13, 14, 16, and 17 (Group II) are also patentably distinguished over Schein in view of Wugofski. The Examiner's rejection of Claims 13, 14, 16, and 17 under 35 U.S.C. § 103(a) is not supported by Schein in view of Wugofski and should be reversed by the Board.

3. Claims 15 and 18 (Group III) are not obvious because Schein in view of Jackson do not teach or suggest the claimed subject matter.

The Examiner rejects Claims 15 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Schein in view of Jackson. The Examiner asserts that Schein teaches essentially the claimed invention except for wherein the auxiliary interface or recorder interface supports synchronous communication. The Examiner further asserts that Jackson teaches these limitations and that it would have been obvious to modify Schein to support synchronous communication.

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Appellants respectfully disagree with the Examiner's analysis and conclusions. Claims 15 and 18 each depend from Claim 1. As discussed above with respect to Claim 1, Schein does not disclose all the limitations of Claim 1. Furthermore, Jackson does not teach, disclose, or suggest the limitations of Claim 1 not disclosed by Schein. Therefore, Appellants respectfully submit that Claim 1 is patentably distinguished over Schein in view of Jackson.

Each of Claims 15 and 18 includes all the limitations of Claim 1, and further recites limitations of particular utility in addition to the limitations of Claim 1. In view of the foregoing remarks regarding the patentability of Claim 1, and in further view of the additional limitations of Claims 15 and 18, Appellants respectfully submit that Claims 15 and 18 (Group III) are also patentably distinguished over Schein in view of Jackson. The Examiner's rejection of Claims 15 and 18 under 35 U.S.C. § 103(a) is not supported by Schein in view of Jackson and should be reversed by the Board.

4. Claim 21 (Group IV) is not obvious because Schein in view of Lawler do not teach or suggest the claimed subject matter.

The Examiner rejects Claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Schein in view of Lawler. The Examiner asserts that Schein teaches essentially the claimed invention except for wherein the digital video recorder comprises a user viewing monitor that keeps track of and compiles a user viewing history and set of user preferences. The Examiner further asserts that Lawler teaches these limitations and that it would have been obvious to modify Schein to provide these limitations.

Appellants respectfully disagree with the Examiner's analysis and conclusions. Claim 21 depends from Claim 19. As discussed above with respect to Claim 19, Schein does not disclose all the limitations of Claim 19. Furthermore, Lawler does not teach, disclose, or suggest the limitations of Claim 19 not disclosed by Schein. Therefore, Appellants respectfully submit that Claim 19 is patentably distinguished over Schein in view of Lawler.

Claim 21 includes all the limitations of Claim 19, as well as further reciting additional limitations of particular utility. In view of the foregoing remarks regarding the patentability of

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Claim 19, and in further view of the additional limitations of Claim 21, Appellants respectfully submit that Claim 21 (Group IV) is also patentably distinguished over Schein in view of Lawler. The Examiner's rejection of Claim 21 under 35 U.S.C. § 103(a) is not supported by Schein in view of Lawler and should be reversed by the Board.

IX. CONCLUSION

As set forth above, the final rejection of Claims 1-12, 19, and 22-30 under 35 U.S.C. § 102(e) as being anticipated by Schein and the final rejection of Claims 13-18 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Schein in view of Wugofski, Jackson, or Lawler should be reversed. Appellants' respectfully submit that the claims pending in the present application are patentably distinguished over the cited prior art. Appellants' respectfully request that this Board overturn the Examiner's rejections and to remand this application to the Examiner with directions to pass all pending claims to allowance.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8/25/03

By: 

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APPENDIX A

Claims Presented on Appeal

1. (Rejected) A digital video recorder connectable to a set-top box configured to receive electronic program guide information and broadcast audiovisual data, the set-top box including at least one auxiliary interface that supports communication between the digital video recorder and the set-top box, the digital video recorder comprising:

at least one recorder interface connectable to the auxiliary interface;

a storage device;

a microprocessor configured to control the digital video recorder and the set-top box, the microprocessor comprising an electronic program guide subsystem connected to the recorder interface to receive the electronic program guide information from the set-top box and to process the electronic program guide information to schedule recording the broadcast audiovisual data on the storage device; and

a video output interface separate from the recorder interface, the video output interface connectable to a display device.

2. (Rejected) The digital video recorder of Claim 1, wherein the electronic program guide subsystem comprises an electronic program guide processor.

3. (Rejected) The digital video recorder of Claim 2, wherein the electronic program guide subsystem further comprises an electronic program guide manager.

4. (Rejected) The digital video recorder of Claim 1, wherein the electronic program guide subsystem further comprises an electronic program guide storage buffer to store the electronic program guide information.

5. (Rejected) The digital video recorder of Claim 1, wherein the electronic program guide subsystem is configured to present processed electronic program guide information to a user.

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6. (Rejected) The digital video recorder of Claim 1, wherein the digital video recorder receives the electronic program guide information and the broadcast audiovisual data from a single source.

7. (Rejected) The digital video recorder of Claim 6, wherein the single source is the set-top box.

8. (Rejected) The digital video recorder of Claim 6, wherein the digital video recorder receives the electronic program guide information and the broadcast audiovisual data via a single interface.

9. (Rejected) The digital video recorder of Claim 6, wherein the digital video recorder receives the electronic program guide information as a component of one or more channels of the broadcast audiovisual data.

10. (Rejected) The digital video recorder of Claim 1, wherein the electronic program guide subsystem is configured to receive updated electronic program guide information from the set-top box, where the set-top box is configured to detect updated electronic program guide information.

11. (Rejected) The digital video recorder of Claim 1, wherein the electronic program guide subsystem is configured to receive electronic program guide information selectively transmitted by the set-top box via the auxiliary interface and the recorder interface.

12. (Rejected) The digital video recorder of Claim 11, wherein the electronic program guide subsystem is configured to transmit a request signal to the set-top box, where the set-top box is configured to selectively transmit the electronic program guide information to the electronic program guide subsystem in response to the request signal.

13. (Rejected) The digital video recorder of Claim 1, wherein the at least one auxiliary interface supports isochronous communication.

14. (Rejected) The digital video recorder of Claim 1, wherein the at least one auxiliary interface supports asynchronous communication.

15. (Rejected) The digital video recorder of Claim 1, wherein the at least one auxiliary interface supports synchronous communication.

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16. (Rejected) The digital video recorder of Claim 1, wherein the at least one recorder interface supports isochronous communication.

17. (Rejected) The digital video recorder of Claim 1, wherein the at least one recorder interface supports asynchronous communication.

18. (Rejected) The digital video recorder of Claim 1, wherein the at least one recorder interface supports synchronous communication.

19. (Rejected) A digital video recorder connectable to a set-top box configured to receive electronic program guide information, the set-top box including at least one auxiliary interface that supports communication between the digital video recorder and the set-top box, the digital video recorder comprising:

at least one device interface connectable to the auxiliary interface;

a microprocessor configured to control the digital video recorder and the set-top box, the microprocessor comprising an electronic program guide subsystem connected to the device interface to receive and process the electronic program guide information from the set-top box; and

a video output interface separate from the device interface, the video output interface connectable to a display device.

20. (Cancelled)

21. (Rejected) The digital video recorder of Claim 19, wherein the digital video recorder comprises a user viewing monitor that keeps track of and compiles a user viewing history and set of user preferences.

22. (Rejected) A method for communicating electronic program guide information from a set-top box configured to receive the electronic program guide information to a digital video recorder comprising a video output interface connectable to a display device and a microprocessor configured to control the digital video recorder and the set-top box, the microprocessor comprising an electronic program guide subsystem, the method comprising:

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connecting at least one recorder interface of the digital video recorder to at least one auxiliary interface of the set-top box, the recorder interface separate from the video output interface and connected to the electronic program guide subsystem;

recognizing the connection of the digital video recorder to the set-top box; and

communicating the electronic program guide information from the set-top box to the electronic program guide subsystem.

23. (Rejected) The method of Claim 22, wherein the electronic program guide information and broadcast audiovisual data are transmitted to the set-top box from a single source.

24. (Rejected) The method of Claim 23, wherein the electronic program guide information and the broadcast audiovisual data are received by an input interface of the set-top box.

25. (Rejected) The method of Claim 23, wherein the electronic program guide information is included in the broadcast audiovisual data.

26. (Rejected) The method of Claim 22, wherein the electronic program guide subsystem receives updated electronic program guide information from the set-top box, where the set-top box is configured to detect updated electronic program guide information.

27. (Rejected) The method of Claim 22, wherein the electronic program guide subsystem receives electronic program guide information selectively transmitted by the set-top box via the auxiliary interface and the recorder interface.

28. (Rejected) The method of Claim 27, wherein the electronic program guide subsystem transmit a request signal to the set-top box, and the set-top box selectively transmits the electronic program guide information to the electronic program guide subsystem in response to the request signal.

29. (Rejected) The method of Claim 27, wherein the transmitting of the electronic program guide information from the set-top box is performed selectively in response to user input.

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30. (Rejected) The method of Claim 22, wherein the method further comprises storing the electronic program guide information in an electronic program guide storage buffer of the electronic program guide subsystem.

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APPENDIX B

Copies of References Discussed in Appeal Brief

Copies of the following references are attached hereto:

U.S. Patent No. 6,002,394 to Schein et al., issued on December 14, 1999, for *Systems and Methods for Linking Television Viewers with Advertisers and Broadcasters*.

U.S. Patent No. 6,003,041 to Wugofski, issued on December 14, 1999, for *Method and Managing Multiple Channel Maps from Multiple Input Devices in a Multimedia System*.

U.S. Patent No. 5,963,264 to Jackson, issued on October 5, 1999, for *Selecting a Digital Television Program and the Control of a Non-Attached Recording Device*.

U.S. Patent No. 5,699,107 to Lawler et al., issued on December 16, 1997, for *Program Reminder System*.

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APPENDIX C

Cases Cited in Appeal Brief

Copies of the following references are attached hereto:

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 2 U.S.P.Q.2d 1051 (Fed. Cir. 1987).

In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1556 (Fed. Cir. 1990).

Brown v. 3M, 265 F.3d 1349, 60 U.S.P.Q.2d 1375 (Fed. Cir. 2001).

which obligate the Government to an expenditure of funds....

Similarly, 41 C.F.R. § 1.209 (1983) defines "procurement" as

the acquisition ... from non-Federal sources, of personal property and non-personal services (including construction) by such means as purchasing, renting, leasing (including real property), contracting or bartering, but not by seizure, condemnation, donation, or requisition.

Here there was no "buyer" or "seller" and no obligation on the part of the Government to expend funds. The Claims Court noted that "a cash 'payment' is not the applicable test" of whether a contract comes within the ambit of the CDA. See *Coffey v. United States On Behalf Of The Commodity Credit Corp.*, 626 F.Supp. 1246, 1250 (D.Kan.1986). We are persuaded, however, that the transaction here was closer to being donative in nature than it was to the contracts for procurement of property or services which Congress contemplated including within the scope of the Contract Disputes Act.

We are also not convinced that the transaction was a "barter" contract as found by the Claims Court to support its holding that the CDA was applicable. The September 23, 1983 document merely conditioned acceptance of the LAV virus samples on a promise to refrain from sharing them without permission from Pasteur. Neither that promise nor the Government's implied promise to share the results of future experiments with Pasteur can be considered "specific property susceptible of valuation," as would be required for barter. Black's Law Dictionary 1200 (5th ed. 1979).

Finally, application of complex, burdensome, and inevitably time-consuming procurement regulations to the type of scientific collaboration here involved would "not do justice to the realities of the situation." *Texas State Comm'n For The Blind*, 796 F.2d at 406. The exchange of information and perishable biological products among scientists engaged in collaborative research relating to deadly diseases such as AIDS should not be required to await compliance with procurement regulations such as

those requiring a documented determination by a contracting officer that the contractor (here, Pasteur) is "responsible," 41 C.F.R. §§ 1-1.12, 3-1.12 (1983), or a written justification for contracting on a noncompetitive basis, 41 C.F.R. § 3-3.5301 (1983). Moreover, the numerous form clauses required by federal procurement regulations would have no applicability to this type of collaborative research effort. See, e.g., 41 C.F.R. §§ 1-1.318-7, 1-7 (1983). Confirmatory of this is the fact that HHS itself has used a form similar to Pasteur's September 23, 1983 agreement when sending cell lines to other laboratories.

For the foregoing reasons, we are persuaded that the primary function of the pleaded contracts was facilitation of the transfer of research materials among scientists engaged in a collaborative research effort, not procurement of property or services, and that they, therefore, do not fit within the scope of the Contract Disputes Act. Accordingly, we reverse the judgment of the Claims Court and remand the case for consideration of whether there is a valid and enforceable contract, and, if so, whether it has been breached.

REVERSED and REMANDED.



VERDEGAAL BROTHERS, INC.,

William Verdegaal, George

Verdegaal, Appellees,

v.

UNION OIL COMPANY OF CALIFORNIA, Brea Agricultural Services, Inc., Appellants.

Appeal No. 86-1258.

United States Court of Appeals,
Federal Circuit.

March 12, 1987.

Action was instituted for alleged patent infringement. The United States Dis-

trict Court for the Eastern District of California, Robert E. Coyle, J., entered judgment on verdict for plaintiff, declaring patent valid and infringed, and defendants appealed. The Court of Appeals, Nies, Circuit Judge, held that patent relating to a process for making urea-sulfuric acid liquid fertilizer by reacting water, urea, a nitrogen-containing chemical, and sulfuric acid, a sulfur-containing chemical, in particular proportions was anticipated by prior art reference disclosing processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers and was invalid.

Reversed.

See also, Fed.Cir., 750 F.2d 947.

1. Federal Civil Procedure §2609

A district court presented with a motion for judgment notwithstanding the verdict should consider all of the evidence, in a light most favorable to nonmoving party, drawing all reasonable inferences favorable to that party, without determining credibility of witnesses, and without substituting its choice for that of the jury and deciding between conflicting elements of the evidence, and should grant the motion only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. 35 U.S.C.A. §§ 102, 103; Fed.Rules Civ.Proc.Rule 50(a, b), 28 U.S.C.A.

2. Federal Civil Procedure §2608

Party moving for judgment notwithstanding the verdict must show that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury and forming its verdict. 35 U.S.C.A. §§ 102, 103; Fed.Rules Civ.Proc.Rule 50(a, b), 28 U.S.C.A.

3. Patents §36(2)

Presumption of validity afforded a patent requires that party challenging validity prove facts establishing invalidity by clear and convincing evidence. 35 U.S.C.A. § 282.

4. Patents §72(1)

A claim is anticipated only if each and every element as set forth in claim is found, either expressly or inherently described, in a single prior art reference. 35 U.S.C.A. § 102(e).

5. Patents §66(1.12)

Patent relating to a process for making urea-sulfuric acid liquid fertilizer by reacting water, urea, a nitrogen-containing chemical, and sulfuric acid, a sulfur-containing chemical, in particular proportions was anticipated by prior art reference disclosing processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers and was invalid. 35 U.S.C.A. §§ 102(e), 282.

6. Patents §72(1)

It was inappropriate for holder of patented fertilizer process to rely on fact that sulfuric acid was added slowly in prior art reference, whereas claimed process allowed for rapid addition, where there was no limitation in subject process with respect to rate at which sulfuric acid was added. 35 U.S.C.A. §§ 102(e), 282.

7. Patents §62(1)

Discarding testimony of experts with respect to what prior art reference taught did not eliminate reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process could be used to make more of the product and, hence, did not preclude conclusion that claimed process for making liquid fertilizer was invalid as anticipated by prior art. 35 U.S.C.A. §§ 102(e), 282.

8. Patents §72(1)

Failure of prior art reference to explicitly identify heel in process for manufacturing liquid fertilizer as a heat sink did not preclude reference from anticipating claimed process, thus requiring a finding of invalidity, where fact that heel functioned as a heat sink was inherent in prior art reference. 35 U.S.C.A. §§ 102(e), 282.

Andrew J. Belansky, Christie, Parker & Hale, Pasadena, Cal., argued for appel-

lants. With him on the brief was David A. Dillard.

John P. Sutton, Limbach, Limbach & Sutton, San Francisco, Cal., argued for appellees. With him on the brief was Michael E. Dergosits.

Before MARKEY, Chief Judge, and DAVIS and NIES, Circuit Judges.

NIES, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

I

BACKGROUND

The General Technology

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

The Process of the '343 Patent

The process disclosed in the '343 patent involves the chemical reaction between urea and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the

presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer—known as a "heel"—can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
 - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
 - b. adding water to the heat sink in an amount not greater than 15% of the end product,
 - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
 - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

Procedural History

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of non-infringement and patent invalidity under 35 U.S.C. §§ 102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed.R.Civ.P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid

under sections 102 and 103. The district court denied the motion without opinion.

II

ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

III

Standard of Review

[1] When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed.Cir.), *cert. denied*, 469 U.S. 871, 105 S.Ct. 220, 83 L.Ed.2d 150 (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed.Cir.1983). A district court should grant a motion for JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

[2] To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed.Cir.), *cert. denied*, 469 U.S. 857, 105 S.Ct. 187, 83 L.Ed.2d 120 (1984); *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere

scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229, 59 S.Ct. 206, 216, 83 L.Ed. 126 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n. 10, 218 USPQ 678, 684 n. 10 (Fed.Cir.1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed.Cir.1984).

[3] Our precedent holds that the presumption of validity afforded a U.S. patent by 35 U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed.Cir.), *cert. denied*, 469 U.S. 821, 105 S.Ct. 95, 83 L.Ed.2d 41 (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

Anticipation

[4] A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed.Cir.1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed.Cir.1983), *cert. denied*, 465 U.S. 1026, 104 S.Ct. 1284, 79 L.Ed.2d 687 (1984). Union Oil asserts that the subject claims of the '343 patent

are anticipated under 35 U.S.C. § 102(e)¹ by the teachings found in the original application for U.S. Patent No. 4,315,763 to Stoller, which the jury was instructed was prior art.

[5] From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. See *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled fertilizer.²

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for

1. Section 102(e) provides:

A person shall be entitled to a patent unless—

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs

further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaaal presented no evidence to the contrary.

[6] Verdegaaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaaal to rely on that distinction. See *SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

[7] Verdegaaal next argues that the testimony of Union Oil's experts with respect to what Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[8] Verdegaaal raises several variations of an argument, all of which focus on the

(1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent....

2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Cite as 814 F.2d 628 (Fed. Cir. 1987)

failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high temperature caused by the exothermic reaction, and that the heel could function as a heat sink.³ In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. See *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief:

Verdegaaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. . . . This conclusion finds support in

3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

4. The jury instruction read:

Stoller filed two patent applications—an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the 343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the 343 patent.

In re Wertheim, 646 F.2d 527 (CCPA 1981), and 1 Chisum on Patents § 3.07[3]. Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaaal's application. Professor Chisum never testified that the Stoller patent was not prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaaal would attempt to raise an issue with respect to the status of the Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art.⁴ Verdegaaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaaal is precluded from arguing that the Stoller patent should not be considered prior art. See Fed.R.Civ.P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed.Cir.1984), *cert. denied*, 470 U.S. 1084, 105 S.Ct. 1844, 85 L.Ed.2d 143 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038, 105 S.Ct. 516, 83 L.Ed.2d 405 (1984).⁵

5. Union Oil also argues that Verdegaaal's counsel misled the jury by its closing rebuttal argument:

[B]ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaaal patent had issued.

We disapprove of Verdegaaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

Conclusion

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil.⁶ In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

REVERSED.



Richard J. SISSON, Appellee,

v.

The UNITED STATES, Appellant.

Appeal No. 86-1485.

United States Court of Appeals,
Federal Circuit.

March 17, 1987.

Air Force master sergeant was court-martialed and convicted of charges that he violated Air Force regulation by making personal commercial solicitations of lower-ranking enlisted members and violated a command directive by engaging in outside commercial activity for compensation without approval of his immediate commanders. After exhausting military remedies, ser-

6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any issue which is denom-

geant brought suit challenging the regulations. The United States District Court for the District of Arizona, Alfredo C. Marquez, J., 630 F.Supp. 1026, voided the court-martial, and Government appealed. The Court of Appeals, Davis, Circuit Judge, held that: (1) sergeant had proper notice that regulation prohibited group solicitations; (2) court-martial could permissibly find that sergeant also made one-on-one solicitations of lower ranking enlisted members; and (3) there was no violation of due process in applying directive to sergeant, even though directive was adopted after he became member of the military and began to engage in outside commercial activity, because sergeant should have known of directive, whether or not he had actual knowledge.

Reversed.

1. Constitutional Law §278.6(2)

Air Force master sergeant who was court-martialed and convicted on charge that he violated Air Force regulation by making personnel commercial solicitations of lower-ranking enlisted members had fair notice that regulation prohibited group solicitations by a superior as well as one-on-one solicitations, and thus his conviction is not in violation of his constitutional rights; moreover, court-martial could have permissibly found that sergeant also made one-on-one solicitations.

2. Armed Services §36

Constitutional Law §278.6(2)

It was not a violation of due process to apply Air Force command directive requiring approval of immediate commanders before engaging in gainful outside activity to Air Force master sergeant, even though directive was adopted after sergeant became a member of the military and began to engage in commercial activities, and there was no showing that he knew about directive; there was sufficient evidence to find that sergeant should have known of

inated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. See *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 934.

In particular, the Senate Report accompanying the Act indicates that an automobile fitted with special seats for use by the handicapped or with special attachments to permit a handicapped person to operate the automobile are indicated as being within the scope of the Act. S.Rep. No. 564, 97th Cong., 2d Sess. 20, reprinted in 1982 U.S. Code Cong. & Admin. News 4077, 4097. However, such a specially-equipped automobile is certainly "alleviative" in the sense that it helps the handicapped person to live with the handicap by helping him or her to ride in or drive a car. Thus, to interpret the word "therapeutic" broadly to include "alleviative" would be inconsistent with the one specific example in the legislative history.

In fact, our impression after reading the legislative history is that the CIT drew a very proper distinction in this case. Congress intended to encourage the importation of that merchandise which is designed to compensate for, or help adapt to, the handicapped condition. At the same time, Congress did not want to allow duty-free importation of merchandise which is used to heal or cure the condition causing the handicap.

[4] Which brings us the second, factual issue: does a hip prosthesis (and consequently the instruments used to implant it) heal or cure a person with a handicap or does it merely allow the handicapped person to better compensate for the handicap? The answer to this question lies heavily in how one defines the underlying condition. Customs argues that a person in need of hip replacement suffers from an inoperative hip. Thus, they conclude, it is "difficult to imagine a better 'cure' for a diseased hip than the insertion of brand new components to replace the area affected by disease." Appellant's Brief at 15. Richards, on the other hand, points out that a person who needs a hip prosthesis because he or she suffers from, for example, severe arthritis still has arthritis after the operation. The prosthesis merely allows the person to better compensate for the arthritis.

In concluding that hip prostheses merely help handicapped persons adapt to their

condition, the CIT relied heavily on the parties' stipulation before trial that:

The Prosthetic Systems are implanted in physically handicapped persons in order to improve their ability to walk or even to allow them to walk when they were severely crippled prior to implantation

The CIT noted that the implantation of prosthetic hips is performed *because of* the incurable nature of the underlying disease, and that the replacement of the hip joint is a "compensatory remedy of a disability and not a therapy." *Richards Medical*, 720 F.Supp. at 1001.

We do not find these factual conclusions to be clearly erroneous. Therefore, we *affirm* the CIT's conclusion that the instruments used to implant the prostheses are not therapeutic and thus are classifiable under item 960.15, TSUS.

AFFIRMED.



In re Raymond G. BOND.

No. 90-1023.

United States Court of Appeals,
Federal Circuit.

Aug. 3, 1990.

Rehearing Denied Nov. 1, 1990.

Inventor appealed from an order of the Patent and Trademark Office Board of Patent Appeals and Interferences which affirmed an examiner's final rejection of both claims of the inventor's patent application. The Court of Appeals held that: (1) decision that prior art anticipated first claim was deficient, and (2) holding that second claim was unpatentable on grounds of obviousness failed to recognize that there were critical differences between claimed invention and prior art.

Vacated in part, reversed in part and remanded.

1. Patents —108

Decision that prior art anticipated inventor's claim was deficient, requiring further proceedings to determine whether prior art was structurally equivalent to claim under which remote control telephone answering machine would allow sufficient time to hang up after setting machine to answer so that owner could avoid toll charges when he set his answering machine remotely.

2. Patents —16(1)

Rejection of claim on grounds of obviousness was error, inasmuch as there were critical differences between claimed invention and prior art.

Keith D. Beecher (argued), Jessup, Beecher & Slehofer, Santa Monica, California, for appellant.

Murriel E. Crawford (argued), Asst. Sol., Office of Sol., Arlington, Va., for appellee. With her on the brief, was Fred E. McKelvey, Sol.

Before ARCHER, Circuit Judge, BALDWIN, Senior Circuit Judge, and TASHIMA, District Judge.*

PER CURIAM.

This appeal is from the decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board), Appeal No. 89-1286, dated June 30, 1989, affirming the examiner's final rejection of both claims of Raymond G. Bond's patent application Serial No. 840,007, filed March 17, 1986, entitled "Remote Turn-on Control System for Telephone Answering Machine." We vacate-in-part, reverse-in-part and remand.

I

The application involves one of the remote control features of a telephone an-

swering machine, the remote turn-on feature. The machine owner who forgot to set the machine to answer (e.g., it was set to play back messages) can call the machine and set it to answering mode remotely by ringing the phone a certain number of times. Once the machine is set, it will remain in this mode and answer calls until it is set to another mode. In this respect, the application involves technology essentially identical to the device patented by Curtis, et al., U.S. Patent No. 3,723,656 (Curtis).

Bond claims a combination of the above technology and a delay means which would prevent the machine from answering the owner's initial call for a predetermined period of time after it has set itself to answer (claim 1). Bond argues that the prior art does not leave sufficient time to hang up after setting the machine to answer, and the owner therefore may incur toll charges. Claim 1 was rejected under 35 U.S.C. § 102 over Curtis. Bond also claims the use of a microcomputer containing an internal counter to implement the control and delay structures (claim 2). Claim 2 was rejected under 35 U.S.C. § 103 over Curtis in view of Hanscom.¹

II

[1] The Board affirmed the examiner's rejection of claim 1. "For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference." *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677, 7 USPQ2d 1315, 1317 (Fed.Cir.1988). These elements must be arranged as in the claim under review, *Lindemann Maschinenfabrik v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed.Cir. 1984), but this is not an "ipsissimis verbis" test, *Akzo N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1479 & n. 11, 1 USPQ2d 1241, 1245 & n. 11 (Fed.Cir.

ing messages remotely using a "beeper" to alert the machine that it should perform that function. The Hanscom specification provides that the essential control functions are performed by a microcomputer.

* District Judge A. Wallace Tashima of the Central District of California, sitting by designation.

1. Hanscom was awarded U.S. Patent No. 4,400,586 for a "Remote Message Repeat Control For Telephone Answering System." Hanscom's claimed invention includes a means for retriev-

Cite as 910 F.2d 831 (Fed. Cir. 1990)

1986), *cert. denied*, 482 U.S. 909, 107 S.Ct. 2490, 96 L.Ed.2d 382 (1987). "[A]nticipation is a fact question subject to review under the clearly erroneous standard." *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed.Cir.1986).

Claim 1 provides for a combination of control means, first circuit means, second circuit means, and

delay means included in said control means for delaying the seizure of said telephone line by said second circuit means for a predetermined time interval after said telephone answering machine has been set to said automatic answering mode so as to permit the calling party to get off the telephone line and avoid telephone charges.

"It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, [] and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed.Cir.1983) (citations omitted). The specification provides that this delay is implemented through digital means as follows:

[W]hen the telephone answering machine is so set to the automatic answer mode, an internal counter in the microcomputer Z107 delays the time until pin 31 goes high, so that actual line seizure is delayed. This permits the calling party to get off the line before any toll charges are assessed.

2. The board found that "Curtis disclosed a delay means (R1-R5, C3-C4 and the fixed time between rings) which delays the seizure of the telephone line for a predetermined time after the machine has been set." It would seem from our review of the Curtis disclosure that resistors R1-R5 and capacitors C3 and C4 do not function to produce any delay *after* the device is energized, *i.e.*, set to the automatic answering mode. Rather, their role seems to be limited to producing the delay that precedes the energizing of the answering device. If our understanding of the Curtis disclosure is correct, the delay experienced by the Curtis device between the time the device is energized and the time it seizes the telephone line is a function solely of

Once pin 31 "goes high," the answering machine immediately seizes the line. By contrast, seizure of the line is delayed in the Curtis device through analog means.² A delay occurs between the time the machine sets to answer—in response to, for example, the tenth ring signal—and the seizure of the line—which takes place only on receipt of the next ring signal.³

The disclosed and prior art structures are not identical, but the claim may nonetheless be anticipated. While a "means-plus-function" limitation may appear to include all means capable of achieving the desired function, the statute requires that it be "construed to cover the corresponding structure, material, or acts described in the specification and *equivalents thereof*." 35 U.S.C. § 112 ¶ 6 (emphasis added); *see In re Iwahashi*, 888 F.2d 1370, 1375 n. 1, 12 USPQ2d 1908, 1912 n. 1 (Fed.Cir.1989) (applying § 112 ¶ 6 to PTO proceedings, and harmonizing prior case law); *Johnston v. Ivac Corp.*, 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386 (Fed.Cir.1989) ("section 112 ¶ 6 operates to *cut back* on the types of *means* which could literally satisfy the claim language," (emphasis in original)). However, the Board made no finding that the delay means of claim 1 and that embodied in the Curtis device are structurally equivalent. Accordingly, its decision as to the anticipation of claim 1 is deficient and must be vacated. Since structural equivalency under section 112 ¶ 6 is a question of fact, *see Pennwalt Corp. v. Durand-Wayland*, 833 F.2d 931, 933-34, 4 USPQ2d 1737, 1739 (Fed.Cir.1987) (*in banc*), the

the fixed time between telephone rings, which delay is not produced by structure within the Curtis device. In view of our vacatur and remand of the board's decision regarding claim 1 on other grounds, we need not further consider the question of whether there is structure in Curtis to delay seizure of the line after the device is energized.

3. The board found that in the Curtis device "the line is not seized immediately but only *after* one additional ring" (emphasis added); the Curtis specification discloses that the incoming call is answered by the answering machine "on" the next ring. *See* col. 4, lines 16-17.

court will not reach that question in the first instance.⁴

III

[2] The Board rejected claim 2, which depends from claim 1, on the ground that the use of a microcomputer to achieve the delay would have been obvious to one skilled in the art. "A determination that an invention would have been obvious under § 103 is a conclusion of law based on fact. [] The degree to which the determination involves facts, and is thus subject to the 'clearly erroneous' standard . . . is that degree required to erect a foundation of facts sufficient to support the legal conclusion." *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1423, 8 USPQ2d 1323, 1327 (Fed. Cir.1988) (citations omitted). See also *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed.Cir.1985).

Claim 2 modifies claim 1 by defining the control and delay means thereof as "compris[ing] a microcomputer having an internal counter to delay the seizure of said telephone line until the counter reaches a predetermined count." In its opinion, the Board stated:

Curtis discloses an analog circuit for counting calls [sic, rings]. . . . Hanscom discloses that it was conventional to count calls [rings] digitally in a telephone answering machine by means of a microcomputer. . . . We hold that the artisan, having the suggestions of Curtis and Hanscom before him at the time the invention was made, would have found it manifestly obvious to combine these teachings to obtain the subject matter of claim 2.

We are convinced that this holding does not recognize that there are critical differences between the claimed invention and the prior art. See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 693-94, 15 L.Ed.2d 545, 148 USPQ 459, 467 (1966) (the difference between the claimed invention and the prior art is one of the four factual inquiries pertinent to any obviousness inquiry under 35 U.S.C. § 103). It also does

not reflect the admonition of this court that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed.Cir.1986); see also *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed.Cir.1984). The Board's analysis is a classical example of a hindsight reconstruction of the claimed invention.

Bond's claimed invention includes a microcomputer which functions to delay seizure of the telephone line once the device has been set to the automatic answering mode. The Board found that the Curtis device experiences some delay after it has been energized and before it seizes the telephone line. Such a delay is only inherent in the Curtis system and Curtis neither places any importance on this delay nor specifically notes that line seizure should be further deferred. Hanscom, the secondary reference, discloses a familiar telephone answering machine that employs a microcomputer which delays seizure of the telephone line until after a preset number of rings, while using a microcomputer to count the number of incoming rings. Hanscom is silent with respect to whether a device like that disclosed by Curtis should embody a delay following activation of the answering mode and before line seizure, or how such a delay should be implemented. For the purpose of its combination with Curtis, the Hanscom patent merely discloses that microcomputers can be used as a means for counting telephone rings entering an automatic answering machine.

When the claimed invention is contrasted with the Curtis and Hanscom devices, a distinct difference becomes apparent—the claimed invention embodies a microcomputer placed within the system which delays seizure of the telephone line for a predetermined period of time following activation of the device's answering mode. Unless the Curtis and Hanscom disclosures would

nized are the ring signals heard by the calling and called parties.

4. In light of this disposition, the court need not resolve the question of how closely synchro-

have suggested to one of ordinary skill in the art at the time the invention was made that a microcomputer should be so employed, claim 2 is not unpatentable under 35 U.S.C. § 103 on this record. See *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-51, 5 USPQ2d 1434, 1438 (Fed.Cir.) cert. denied, 488 U.S. 825, 109 S.Ct. 75, 102 L.Ed.2d 51 (1988). On balance, we conclude, given the factual findings of the Board (including the finding that the Curtis device *does* contain some structure which is involved in producing the inherent delay in seizing the telephone line after activation of the automatic answering mode, see footnote 2, *supra*), that even though the Curtis device does experience some inherent delay, the cited references would not have suggested the claimed invention to one of ordinary skill. Neither reference expressly or implicitly suggests that a microcomputer assembly should be embodied in a Curtis-like device in such a manner as would produce the inherent, yet unmentioned, delay experienced by the Curtis device.

VACATED-IN-PART, REVERSED-IN-PART, and REMANDED.



IV

In conclusion, the Board's decision is (1) vacated insofar as it holds that the invention of claim 1 of Bond's application is anticipated by the Curtis device; (2) reversed insofar as it holds that claim 2 is unpatentable under 35 U.S.C. § 103 over Curtis in view of Hanscom; and (3) remanded. On remand, the Board should consider whether the delay experienced by the Curtis device after activation of the answering mode and before seizure of the telephone line is caused by any "structure" within the Curtis device and, if so, whether this "structure" is equivalent to that disclosed in Bond's specification as exemplary of the claim 1 delay means. Only if each of these inquiries is answered in the affirmative is the invention defined in claim 1 anticipated by the Curtis disclosure.

pay should be considered basic pay for certain purposes implied that it was not basic pay for other purposes, and was therefore "additional pay"). Taking Mr. Pann's argument to its logical extreme, if a Rigger (Diver) was not assigned diving duties on a particular day, or if he received fewer diving assignments in a particular time period than he had received in a previous time period, he could complain that he suffered a "reduction in pay" for that day or that time period. That is not what "reduction in pay" means, as the Board's decisions on this issue make clear. The Board therefore correctly construed dive pay as additional pay within the meaning of 5 C.F.R. § 531.202.

Mr. Pann cites *Kinnamon v. Department of Defense*, 53 M.S.P.R. 274 (1992), for the proposition that a "special salary," such as dive pay, may qualify as part of an employee's basic pay. The administrative judge in Mr. Pann's case acknowledged that the Board in *Kinnamon* had suggested that "some forms of 'special salary,' under certain circumstances, could be considered part of 'basic pay' for purposes of adverse action jurisdiction under 5 U.S.C. § 7512(4)." However, *Kinnamon* does not hold that all forms of "additional pay" are basic pay. The "special salary" at issue in *Kinnamon* was compensation for performing various administrative duties pursuant to a permanent appointment to a position with the Uniformed Services University of Health Services. Mr. Kinnamon argued that he had been demoted to the position of professor at a substantially lower rate of basic pay, after serving in a different position—a permanent administrative or dual administrative/professor position at a higher rate of basic pay. Based on the evidence proffered by Mr. Kinnamon, the Board held that Mr. Kinnamon was entitled to a hearing to establish that the "special salary" was a part of the full annual salary of the position from which he had been transferred and thus was part of

his basic pay. Unlike Mr. Kinnamon, Mr. Pann received the same rate of basic pay in his Rigger (Diver) position as in his Rigger (Land) position, because the dive pay was not a fixed portion of his compensation, but depended on whether and how often he performed certain tasks within his job description. He was thus reassigned to a position having the same grade and rate of pay within the meaning of the Board's jurisdictional statute, even though his opportunities for earning additional pay were reduced.

Mr. Pann also raises a number of procedural arguments. We have considered these arguments carefully, but find they are without merit. Because Mr. Pann did not suffer a reduction in his rate of basic pay as a result of his reassignment to the Rigger (Land) position, we affirm the Board's decision that it lacked jurisdiction to hear Mr. Pann's appeal.

AFFIRMED.



Roger W. BROWN, Ph.D.,
Plaintiff-Appellant,

3M, Defendant-Appellee,

and

Air Products and Chemicals, Inc.,
Defendant-Appellee,

and

Revlon, Inc., Defendant.

No. 00-1552.

United States Court of Appeals,
Federal Circuit.

Sept. 18, 2001.

Patentee brought suit alleging infringement of its patent for computer data

processing system directed at solving Year 2000 (Y2K) problem by setting computer clock to an offset time. The United States District Court for the District of Arizona, Paul G. Rosenblatt, J., granted summary judgment of invalidity to competitor. Patentee appealed. The Court of Appeals, Pauline Newman, Circuit Judge, held that: (1) patent described an apparatus capable of converting only two-digit, only three-digit, only four-digit, or any combination of two-, three-, and four-digit date-data, and (2) patent thus was anticipated by prior art, and was invalid for lack of novelty.

Affirmed.

Mayer, Chief Judge, dissented and filed opinion.

1. Patents ⇨323.2(1)

Grant of summary judgment of patent invalidity is reviewed on the same standard as applied by the district court, i.e., whether upon application of the correct law a reasonable trier of fact could find for the nonmovant when all reasonably disputed material facts and factual inferences are resolved in favor of the nonmovant.

2. Patents ⇨50.1, 314(5)

Anticipation sufficient to preclude patent protection means a lack of novelty, and is a question of fact. 35 U.S.C.A. § 102.

3. Patents ⇨72(1)

For anticipation to preclude patent protection, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. 35 U.S.C.A. § 102.

4. Patents ⇨72(6)

A patent claim which covers several structures or compositions, either generically or as alternatives, is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art. 35 U.S.C.A. § 102.

5. Patents ⇨66(1.14)

Claim of patent for computer data processing system directed at solving Year 2000 (Y2K) problem by setting computer clock to an offset time, which described an apparatus capable of converting only two-digit, only three-digit, only four-digit, or any combination of two-, three-, and four-digit date-data, was anticipated by prior art, which taught the handling of year dates in two-digit format by setting the system clock to an offset date other than the actual date, and thus was invalid for lack of novelty. 35 U.S.C.A. § 102.

6. Patents ⇨101(2)

Patent claim for computer data processing system directed at solving Year 2000 (Y2K) problem by setting computer clock to an offset time, and using one database file stored in the memory containing records of year-date data with years being represented by at least one of two-digit, three-digit, "or" four-digit year-date representations, described an apparatus capable of converting only two-digit, only three-digit, only four-digit, or any combination of two-, three-, and four-digit date data.

7. Patents ⇨51(1)

That which infringes a patent if later anticipates if earlier. 35 U.S.C.A. § 102.

Maria Crimi Speth, Grant, Williams & Dangerfield, P.C., of Phoenix, AZ, argued for plaintiff-appellant.

James J. Elacqua, Brobeck, Phleger & Harrison, LLP, of Palo Alto, CA, argued for defendant-appellee, 3M. With him on the brief were Craig Y. Allison, and Michelle S. Falkoff, Edward R. Gladys, Jr., and J. Marty Harper, Goodman Raup PC, of Phoenix, AZ, joined in the brief.

Before MAYER, Chief Judge,
NEWMAN and CLEVENGER, Circuit
Judges.

PAULINE NEWMAN, Circuit Judge.

Dr. Roger W. Brown appeals the decision of the United States District Court for the District of Arizona, granting summary judgment of invalidity of Dr. Brown's United States Patent No. 5,852,824.¹ We affirm the district court's judgment.

DISCUSSION

[1] The district court ruled summarily that Brown's patent was anticipated by United States Patent No. 5,600,836 (the "TOCS" patent, for Turn of the Century Systems). For the grant of summary judgment there must be no material fact in dispute, or no reasonable version of material fact upon which the nonmovant could prevail. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986) (the purpose of the summary judgment procedure is not to deprive a litigant of a trial, but to avoid an unnecessary trial when there is only one reasonably possible outcome). The grant of summary judgment of invalidity is reviewed on the same standard as applied by the district court, *viz.* whether upon application of the correct law a reasonable trier of fact could find for the nonmovant when all reasonably disputed material facts and factual inferences are resolved in favor of the nonmovant.

[2-4] Anticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact. To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed.Cir.2001); *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d

1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir.1991). When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 782, 227 USPQ 773, 778 (Fed. Cir.1985). See also *In re Petering*, 49 C.C.P.A. 993, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962) (a compound described in a reference, and a generic claim including that compound, are unpatentable under 35 U.S.C. § 102(b)); *In re Slayter*, 47 C.C.P.A. 849, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960) (a generic claim can not be allowed if the prior art describes a species within the claimed genus).

The Brown and the TOCS patents are both directed to the Year 2000(Y2K) problem. For computer programs where the year 1999 was represented by the two digits "99," there was concern about whether in the year 2000 the programs would differentiate between the year dates 2000 and 1900, with forecasts of catastrophic consequences. One proposed solution was to reprogram the computer into thinking it was an earlier year than it actually was, so that a year date ending in "00" would not soon be reached. The TOCS patent presented a solution of this type, wherein "two-digit years provided as inputs to the application are adjusted by either a time change value or complement value," while the output dates are represented in local time. Although it is disputed, for the purposes of review of this summary judgment we accept Brown's position that the TOCS patent does not teach remediation of other than two-digit year dates.

1. *Brown v. Proctor & Gamble Co.*, No. 99-CV-

1577 (D.Az. Aug. 10, 2000).

Not all computer databases represent the year date solely by two digits; some databases use three digits or four digits to represent year dates, especially in newer computer programs. Thus, several different date formats may be running on the same computer system. The Brown invention includes adjustment of programs containing any such date systems.

The TOCS patent was licensed to a company called Unbeaten Path International Ltd. (UPI), who provided a program that, according to Dr. Brown, remediated year dates on computers running applications containing two-, three-, and four-digit year dates by setting the computer date clock to an offset time. Dr. Brown states that the defendants use this method of remediating year date data, and that by application to two-, three- or four-digit year dates, the Brown patent is infringed.

[5] Dr. Brown's patent, filed on May 22, 1997, claims a system for setting the computer clock to an offset time, applicable to records with year date data in "at least one of two-digit, three-digit, or four-digit" representations. Claim 16 is in suit:

16. An apparatus for processing year-date data in a computer system, the apparatus comprising:
 - a CPU;
 - a bus coupled to the CPU;
 - a memory coupled to the bus;
 - a system clock coupled to the bus, wherein the system clock is set to an offset time wherein the offset time is a time other than the actual time;
 - at least one application program stored in the memory and being executed by the CPU;
 - a[t] least one database file stored in the memory containing records with year-date data with years being represented by at least one of two-digit, three-digit, or four-digit year-date representations; and

a mechanism for converting the year-date data representations in the database file to a two-digit year-date data representation.

(Emphasis added.) During prosecution Dr. Brown identified the TOCS patent (filed on November 14, 1995) as the closest reference.

[6] The district court construed the word "or" in claim 16 as meaning that the apparatus was capable of converting "only two-digit, only three-digit, only four-digit, or any combination of two-, three-, and four-digit date-data." Slip op. at 9. We agree with this construction of the claim, for it is the plain reading of the claim text. These are not technical terms of art, and do not require elaborate interpretation. There is no basis in the specification or prosecution history for reading "or" as "and"—nor does Dr. Brown request such a reading.

[7] Neither party disputes that the TOCS patent teaches the handling of year dates in two-digit format by setting the system clock to an offset date other than the actual date. Although Dr. Brown argues that TOCS does not anticipate the larger capability of the Brown system to conduct threeand/or four-digit date conversion, the TOCS disclosure of two-digit remediation anticipates the Brown two-digit rededication. By claiming his invention in the alternative, Dr. Brown has presented a claim for which infringement would lie whether or not there were also offset of three-digit or four-digit year dates. The principle of law is concisely embodied in the truism that: "That which infringes if later anticipates if earlier." *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1573, 229 USPQ 561, 574 (Fed. Cir.1986) (citing *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537, 9 S.Ct. 389, 32 L.Ed. 738 (1889)). See generally *Lewmar Marine*,

Inc. v. Barient, Inc., 827 F.2d 744, 747, 3 USPQ2d 1766, 1768 (Fed.Cir.1987).

Dr. Brown argues that because the capability to act on a combination of two-, three-, and four-digit data when such data are present is not shown in the prior art, claim 16 can not be anticipated. However, claim 16 is written in the alternative, and as written would be literally infringed by a system that offsets year dates only in two-digit formats such as the TOCS system. Thus the district court correctly ruled that claim 16 was anticipated, and invalid for lack of novelty. 35 U.S.C. § 102.

Each party shall bear its costs.

AFFIRMED.

MAYER, Chief Judge, dissenting.

I would reverse. The court errs by reading the claim term "or" exclusively, while the district court appropriately read it inclusively when construing the claim. This is not a case of a species anticipating a genus, or of a combination claimed in the alternative. Instead, the Brown patent teaches an apparatus with additional functionality not disclosed in the allegedly anticipating TOCS patent.

Claim 16 of the Brown patent includes the following limitations:

at least one database file stored in the memory containing records with year-date data with years being represented by at least one of two-digit, three-digit, or four-digit year-date data representations;

and

a mechanism for converting the year-date data representations in the database file to a two-digit year-date data representation.

'824 patent, col. 18, ll. 59-65.

The "mechanism for converting the year-date data representations in the database file" refers to "the" antecedent year-date data representations in the prior limi-

tation. Such data representations may consist of only two-digit dates, only three-digit dates, only four-digit dates, or any combination or sub-combination thereof. Therefore, although the data may vary, the mechanism always must have the capacity to convert all of the possible data sets into two-digit year-date data representations. Moreover, the "mechanism for converting ..." limitation is stated in means-plus-function format pursuant to 35 U.S.C. § 112, ¶ 6, and must be interpreted by reference to the structure or acts disclosed in the specification. The preferred embodiment in the specification discloses a process for converting all such possible year-date combinations to two-digit representations, before further processing to offset the system clock. See '824 patent, col. 12, l. 5-col. 13, l. 7. The presence of this disclosure mandates the construction of the "mechanism for converting ..." limitation as one that requires the capacity to process two-, three- and four-digit dates, even if the full capacity of the device is not always utilized.

To invalidate a patent by anticipation, a prior art reference needs to disclose each and every limitation of the claim. *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369, 21 USPQ2d 1321, 1328 (Fed.Cir.1991). The TOCS patent teaches a mechanism for processing two-digit year-date representations by using an offset date other than an actual date. However, it does not disclose a mechanism for converting three- or four-digit year-date representations to two-digit year-date representations for use with the offset clock. See, e.g., '836 patent, col. 9, ll. 50-64, col. 10, ll. 38-67, col. 2, ll. 42-44. Although its specification states that "... all date data is preferably converted prior to processing by the application so that the years are confined to a single century," *id.* at col. 4, ll. 18-20, it discloses no acts or structure to perform this conversion, and

makes no mention of reducing three- or four-digit dates to two-digit dates. Therefore, the TOCS patent does not anticipate because it does disclose the "mechanism for converting the year-date data representations" limitation.

Similarly, the test for literal infringement under § 112, ¶ 6 is first, whether the accused device performs an identical function to the one recited in the claim, and, if so, whether the accused device uses the same structure, materials or acts found in the specification, or their equivalents. *Gen. Elec. Co. v. Nintendo Co., Ltd.*, 179 F.3d 1350, 1355, 50 USPQ2d 1910, 1913-14 (Fed.Cir.1999). A system made in accordance with the TOCS patent would not literally infringe the '824 patent because it would not perform the function of converting three-digit and four-digit date representations. Therefore, because it would not infringe if later, it cannot anticipate though earlier.

Moreover, the burden of proving a patent anticipated is particularly high when the prior art was before the examiner during prosecution of the application. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1467, 15 USPQ2d 1525, 1527 (Fed.Cir.1990). Brown cited the TOCS patent as a reference to the examiner in his application for his '824 patent. Had the examiner believed that the Brown patent was claimed in the alternative, he would be expected to have imposed a restriction requirement, or rejected the application. Instead, he allowed the claims, which use the term "or" in a practical common-sense way of claiming the single invention of an apparatus with multiple inter-related functions. This is not to say that the TOCS patent might not inherently disclose the missing limitation in the Brown patent, or that the Brown patent might not be held invalid as obvious, or even that Brown might be unpatentable as not "useful." But neither the parties nor

the district court put those questions before us today.



In re INLAND STEEL COMPANY.

No. 00-1143.

United States Court of Appeals,
Federal Circuit.

Sept. 19, 2001.

Board of Patent Appeals and Interferences invalidated on basis of obviousness patent which related to method of producing cold-rolled electrical steel that had improved magnetic properties. Patent owner appealed. The Court of Appeals, Bryson, Circuit Judge, held that: (1) limiting prior art to its principal focus in a determination of obviousness was not warranted; (2) person skilled in the art would have been motivated to combine prior art; (3) person skilled in the art would have had a reasonable expectation of success from combining prior art; and (4) owner failed to overcome prima facie case of obviousness.

Affirmed.

1. Patents ⇌ 16.5(1)

Limiting prior art to its principal focus was not warranted in determining obviousness of patent relating to use of antimony to produce cold-rolled electrical steel that had improved magnetic properties; although prior art did not state exact mechanics that were stated in patent, overall focus of prior art apprised ordinary artisan of significance of using antimony to im-